Johann Sebastian Bach (1685–1750) in Medical History

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"But to proceed, I have seen a vast variety of singular animals, such as dromedaries, camels, &c. and particularly at Leipsick, where a celebrated master of music, who had already arriv'd to his 88th year, received his sight by my hands . . ."[1] In this incongruous manner, the "ophthalmiater" John Taylor (1703–1772) alludes to his part in the last illness of Johann Sebastian Bach. True, Bach was only 64 years of age when he fell into Taylor's hands, but with Taylor almost any elderly person was either 88 years old or "near arriv'd to his 90th year"[2]; Bach never recovered his eyesight, but then Taylor never did care to report his failures.

Bach was a vigorous, robust, and healthy man throughout his life; he had, however, always been nearsighted ("sein von Natur blödes Gesicht") and his friends believed that his vision was weakened even more by his "unbelievable industry" which made him spend whole nights studying, reading, and copying. When he finally fell victim to a serious and painful eye disease,[3] they were greatly disturbed and, as a last resort, advised him to call in the traveling oculist, "Chevalier" John Taylor, who happened to be in Leipzig at that time (December 1749 or January 1750). It was Taylor of whom his contemporary Henry Jones said[4] (this was, of course, long before the days of radio and television) "never was the art of Puffing displayed to such Perfection," while Samual Johnson declared him "an instance of how far impudence will carry ignorance."[5]

[1] Taylor, John. The history of the travels and adventures of the Chevalier John Taylor ophthalmiater. London, 1761. v. 1 [pt. 2], p. 25.

[2] cf. *op. cit.*, v. 1 [pt. 2], p. 45; v. 2, pt. 23, etc.

[3] For descriptions of Bach's last illness, see Agricola, J. Fr. and Bach, Ph. E. Denkmal . . . oder . . . Leben Johann Sebastian Bachs, Musicdirectors zu Leipzig, (so-called "Nekrolog."). In: von Kolof, L. C. Mizler. Musikalische Bibliothek., v. 4, pt. 1, p. 158–173 (p. 167). Also Forkel, J. N. Über Johann Sebastian Bachs Leben, Kunst und Kunstwerke. Augsburg, 1925 (first published 1802), p. 10–11. (These are the only primary sources in existence).

[4] The life and extraordinary history of the Chevalier John Taylor; written from authentic materials . . . by his son. London, 1761, v. 1, p. 196. The actual author is Henry Jones (cf. Dictionary of National Biography, London, 1898. v. 55, p. 442).

[5] Boswell. Life of Johnson, ed. Croker, 1848. p. 630. Quoted in Dictionary of National Biography, London, 1898. v. 55, p. 441.

Taylor performed two operations on Bach, both of them unsuccessful. The result was an obstinate inflammation and total blindness. This meant that Bach had to submit to the drastic and desperate "postoperative treatment" employed by Taylor in cases of failure. Elias Friedrich Heister has given us a caustic and unsparing description of Taylor's methods which "endangered the very lives of his patients."[6] These methods combined local irritation of the eye by repeated incisions and cataplasms with excessive use of the entire dubious armamentarium of the times (including calomel, cantharides, bleeding, etc.). They decisively weakened Bach's organism and he never recovered. In a darkened room he dictated his last work, an organ fantasy on a chorale earlier entitled "When we are in most dire need"; now with death close at hand, he changed the title to "I now appear before Thy throne."[7] It is reported that he regained his sight for a few hours ten days before he died, but this temporary return of vision undoubtedly was a hallucination.[8] A few hours later he suffered a "stroke" which was followed by a "hot fever"; he died on 28 July 1750[9] at a quarter to nine in the evening "despite all possible efforts of two of the best physicians at Leipzig."

We have no knowledge of Taylor's diagnosis nor, indeed, the nature of Bach's affliction. The patient's history—his age, the sudden onset of violent pain in the eye, the lack of perception of light in the last stages, and finally the stroke preceding his death—points to glaucoma, possibly hemorrhagic. This syndrome, according to Duke-Elder,[10] was "not adequately recognized until the detailed clinical description of Beer"; nevertheless, the questionable Taylor distinguished between cataract and glaucoma, characterizing the latter—more than vaguely indeed—as a disease "wherein the crystalline humor as well as its capsule are opaque, the diameter of the lens is enlarged and this enlargement and the degree of opaqueness are the same throughout."[11] That Taylor's diagnosis actually may have been "glaucoma" (as he understood it) appears somewhat likely because he performed two operations and his therapy for glaucoma

[6] Heister, E. F. Besondere Nachricht wegen des . . . Oculisten D. Taylors . . . Helmstädt, 1736. (See particularly p. 42).

[7] Spitta, P. Johann Sebastian Bach, ed. by W. Schmieder. Leipzig, 1935. p. 364. The fantasy may be found—with both titles—in Bach, J. S. Organ works (Augener's Edition). London, 1914. v. 10, p. 1336–1339.

[8] Vollhardt, M. Über das Augenleiden Joh. Seb. Bachs, seinen Operateur und wie es diesem später in Dresden erging. Med. Welt 9: 1825–1829, 1935.

[9] Forkel is evidently mistaken in giving the death date as 30 July; cf. the letter of Anna Magdalena Bach addressed to the University of Leipzig on 17 October 1750 (reprinted in David, H. T. and Mendel, A. The Bach reader. New York, 1945. p. 190. Also the excerpt from the death-register of the St. Thomas-Kirche, *ibid.*, p. 188).

[10] Duke-Elder, W. Stewart. Textbook of ophthalmology. St. Louis, 1947. v. 3, p. 3282.

[11] Translated from his Kurzer Auszug . . . von zwey hundert und zwey und vierzig Krankheiten. Frankfurt a. M., 1750. p. 61. Another equally hazy definition is reprinted in Coats, G. The Chevalier John Taylor. R. London Ophthalm. Hosp. Rep. 20: 1–92, 1915 (p. 63).

implied surgery in two stages.[12] On the other hand, the second operation may simply have been undertaken because of his unwillingness to cease and desist after initial failure; other sad examples of his persistence are reported.[13] In Bach's case we have at least the small satisfaction of knowing that his eyesight was lost in any case. All else is hypothetical.

Bach was buried on 31 July 1750; evidence that his contemporaries, and particularly his Leipziger "Landsleute," did not properly appreciate his greatness is provided by the fact that the location of his grave fell into oblivion. From an incidental remark in the *Nekrolog*[14] it was known that he was buried near the St. Johannes-Kirche; there was also a "poorly founded" oral tradition to the effect that Bach had been buried "six steps in front of the small entrance on the left side of the Church."[15] When in 1894 the old church was to be replaced by a new and larger one, part of the old cemetery surrounding it had to be included, and it was then decided to search for the remains of Bach while the excavation work was going on.[16] Preliminary archival research yielded the valuable information, finally located in the account books of the Johannes-Hospital, that Bach had been buried in an oak casket.[17] This discovery was the more important as only 12 out of 1400 bodies buried in the year of Bach's death were resting in oak caskets; three of these were found on October 22, 1894 and opened in the presence of the great anatomist of the University of Leipzig, Prof. Wilhelm His (1831–1904). One contained the complete skeleton of an "elderly man, not very tall but well-built." The skull was "strong and of characteristic form," presenting a receding forehead, a strong glabella, a nasal bone jutting out at a sharp angle, relatively low orbital cavities whose width exceeded their height, and strong jawbones with a slightly protruding lower jaw. It was immediately evident to His that this was not an ordinary skull ("Dutzendkopf")—a comforting conclusion because any indifferent formation would have excluded further investigation.

The first step in the meticulous process of identification undertaken by His

[12] Taylor, J. Mechanismus, oder Neue Abhandlung von der künstlichen Zusammensezung des menschlichen Auges. Frankfurt a. M., 1750. p. 156 sq.

[13] Heister, E. F. *op. cit.*, p. 31 sq.

[14] Nekrolog, p. 172.

[15] Wustmann, G. Die Auffindung der Gebeine Johann Sebastian Bachs. Grenzboten 54: 415–425, 1895 (p. 415–416). An earlier article by the same author (Bach's Grab, in Grenzboten 53: 117–126, 1894) was not available for examination.

[16] The following report on the finding and identification of Bach's remains is based on (a) His, W. Johann Sebastian Bach; Forschungen über dessen Grabstätte, Gebeine und Antlitz. Leipzig, 1895, and (b) His, W. Anatomische Forschungen über Johann Sebastian Bach's Gebeine und Antlitz . . . Abhandl. d. Math.-phys. Cl. d. k. sächs. Gesellsch. d. Wissensch. 22: 379–420, 1895. Also used was Die Auffindung der Grabstätte J. S. Bach's. Musik. Wbl., 26: 339–340, 1895.

[17] "4 Thlr. zahlte der Todtengräber Müller wegen Herrn Johann Sebastian Bach's eichenem Sarg."

was a comparison of the skull with the few authentic portraits of Bach, particularly the two paintings by J. G. Haussmann then available at Leipzig. The comparison showed not only a general agreement as to the basic form, but the portraits also presented the very physiognomic traits described before as characterizing the skull. His, who was as thorough as he was resourceful, felt that this result was "quite interesting" but not at all conclusive and that only the help of a good sculptor offered some hope of solving the problem. If an artist were able to mould a portrait-like bust over a plaster cast of the skull, then there would at least be proof of the possibility that the skull was Bach's. Accordingly, the sculptor C. Seffner was approached and was set to work in a room containing the Haussmann portraits and a few etchings of Bach; within a few days, he created a work "the distinctive quality of which moved all those who had occasion to see it." His now considered it "likely" that the skull was genuine. A control experiment was next performed by Seffner: a bust of Händel cast over the skull proved to be an "impossibility per se" ("innere Unmöglichkeit"). It was an acceptable likeness, but areas where the soft parts are very thin, like the forehead, had to be filled out with thick layers of clay while in other areas the bone was almost bare where the soft parts are naturally thick, like the chin. Thereupon, His redoubled his efforts; he had the City Council appoint a Committee of six which, interestingly enough, included one librarian, Dr. E. Vogel, an expert on the iconography of Bach. The Committee was first to examine skeleton and skull, then to appraise the Bach portraits and, finally, to "ascertain the degree of certainty attainable in reconstructing the soft parts above a skull."

The skeleton presented numerous exostoses in the area of the vertebral column and elsewhere, while the skull showed an advanced stage of closure of the sagittal, coronal, and lambdoidal sutures. These indications that the skeleton belonged to an elderly man were confirmed by F. Hesse (1849–1906),[18] American-trained professor of dentistry at the University of Leipzig, who was able to diagnose senile atrophy of the alveolar processes. Another interesting observation was made by Hesse: even though the skull had only nine teeth, it could be seen that the cutting edges of the incisors rather than their labial or lingual surfaces were worn down. This meant that the lower jaw must have protruded to some extent—a feature clearly present in all the known portraits of Bach.

The next step in the Committee's work was to make a critical examination of the portraits; this task was left to Dr. Vogel and Seffner, and as it lay mainly in the field of art criticism, we refer the interested reader to the original sources quoted for further information. In contrast, the problem of reconstructing the soft parts over the skull is of the highest anatomical interest. A few years be-

[18] Hesse, F. Bericht über Kiefer und Zähne des Schädels. In His, W. Johann Sebastian Bach. Leipzig, 1895, p. 20–22.

fore, H. Welcker[19] had developed a "profile-method" by which a correct profile of the soft parts could be drawn over a skull. He applied this method, based on a limited number of measurements taken from 13 male cadavers, in the heated controversy on the genuineness of the so-called "Schiller-Schädel."[20] This method could be used only because Schiller's death-mask was available for comparison with the profile thus "calculated" by Welcker, but no death-mask of Bach had been taken and all his portraits showed a frontal view. Therefore, His was justified in stating that "our profile constructed over the skull on the basis of the measurements found was likely to be Bach's profile only if it could be incorporated in a bust agreeing with his en-face portraits."

His's thoroughness in taking these measurements is borne out by the fact (particularly remarkable in view of the highly argumentative inclination of German scholars) that the positive result announced by him has found general acceptance. He took 19 different facial measurements of 37 cadavers by using a simple method: A sewing needle over which a thin rubber-disc with a hole in the center had been placed was lubricated and inserted vertically into the skin. Then the rubber disc was pushed down to the skin and, after the needle had been pulled out, the distance from the needlepoint to the disc was measured. The measurements yielded the important result that a certain normal thickness of the soft parts over every area of the face can be assumed; this median thickness of any given area varies only very slightly in normal subjects, according to sex and age. Consequently, the most accurate and reliable results can be obtained by using the median values for the appropriate sex and age group, in our case the men between 50 and 72 years of age. According to these measurements, based on the investigation of eight subjects, a system of fixed points was constructed over the skull and Seffner modelled a third bust, strictly adhering to these values. This bust exhibits all the characteristic features known from the portraits and is more lifelike and expressive than any of them. The final Report of the Commission states that "only a coincidence of the most unlikely kind could have made it possible to come upon a different skull of such strongly pronounced and not at all ordinary form which would correspond to the requirements of genuineness to such an extent as is the case with this skull."

A detailed investigation of the temporal bones undertaken by His in cooperation with Adam Politzer (1835–1920), famed Viennese authority in the field of otology, yielded results suggestive of Bach's musical genius. While His states that it would be futile to attempt to describe the talent of a great com-

[19] Welcker, H. Schiller's Schädel und Todtenmaske nebst Mittheilungen über Schädel und Todtenmaske Kant's. Braunschweig, 1883.

[20] cf. Schaaffhausen, H. Hermann Welcker, Schiller's Schädel und Todtenmaske. Arch. Anthrop. 15: Suppl., 170–185, 1885 and H. Welcker's reply, Zur Kritik des Schillerschädels. Arch. Anthrop. 17: 19–60, 1887.

poser from the structure of his temporal bones he feels sure that a well organized and well developed ear is indispensable in the making of a great composer. In Bach's case an over-all impression of particularly pronounced development of the temporal bones is immediately apparent. It is confirmed by examination of their components: the abnormally large size of the fenestra rotunda (diameter of 2.5 mm. as opposed to a normal of 1.5 mm.[21]); the extraordinary thickness and firmness of the mastoid process, particularly in its cortical part; the remarkable width of the incisura mastoidea; the prominence of the petrous ridge; the unusual hiatus subarcuatus.

Further observations throw an interesting sidelight upon the problems of localization of cerebral function. The impressions of the fusiform and inferior temporal gyri on the skull suggest a particularly strong development of these areas. The large size of the first coil of the cochlea speaks for an unusual development of the cochlear ganglion and, accordingly, of the higher sensory centers. An attempt to interpret these findings is beyond the scope of this paper.

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[21] Cunningham's Textbook of anatomy, ed. by J. C. Brash and E. B. Jamieson. 8th ed. New York, 1943. p. 1145.